

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number
WO 2004/050967 A1

(51) International Patent Classification⁷: D01F 11/14

(21) International Application Number:

PCT/EP2003/050906

(22) International Filing Date:

27 November 2003 (27.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02292979.8 3 December 2002 (03.12.2002) EP

(71) Applicant (*for all designated States except US*): MOTOROLA INC [US/US]; 1303 E.Algonquin Road, Schaumburg 60196 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): GOUX CAPES, Laurence [FR/FR]; 108 Bd de la Reine, F-78000 Versailles (FR). FILORAMO, Arianna [FR/FR]; 112, Rue Guy de Coubertin, F-78470 Saint Remy Les (FR). BOURGOIN, Jean Philippe [FR/FR]; 53 La Rotonde, F-78960 Voisin Le Bretonneux (FR).

(74) Agent: MCCORMACK,, Derek J.; Motorola European Intellectual Property Operations, Midpoint, Alencon Link, Basingstoke RG21 7PL (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

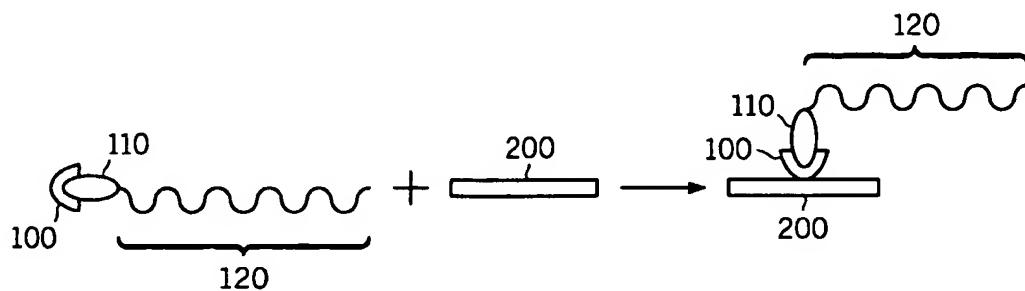
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LINKAGE OF NANOMORPHIC CARBON TO A NUCLEIC ACID



(57) Abstract: An exemplary method for substantially non-covalent linkage of nanomorphous carbon species (200) to a nucleic acid such as DNA (120) comprises inter alia the steps of providing a strand of nucleic acid (120), functionalizing the nucleic acid strand (120) with a first biomolecule (110), reacting the functionalized nucleic acid (110, 120) with a second biomolecule (100) and coupling a nanomorphous carbon species (200) to the nucleic acid complex (100, 110, 120). Disclosed features and specifications may be variously adapted or otherwise optionally modified to control or otherwise improve the deposition and/or orientation of nanomorphous carbon molecules with respect to any surface or substrate. An exemplary embodiment of the present invention representatively provides for non-covalent linkage of carbon nanotubes to DNA via a biotin-streptavidin complex.

WO 2004/050967 A1